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Abstract

Questionnaires were completed by 1750 Kansas grocery shoppers in selected Dillon's supermarkets to determine how product color and educational materials affected their purchase intent of vacuum-packaged ground beef. Half the consumers received educational materials (informed consumers). Informed consumers were more likely (P<.0001) to indicate a positive purchase intent for vacuum-packaged ground beef than uninformed consumers. Informed consumers were as likely to purchase the purple-red, vacuum-packaged product as the bright cherry-red product to which they are accustomed. Product color was important in their product purchase decision. Vacuum-packaged ground beef should compete favorably with the conventionally packaged product, if educational materials are provided to explain the color differences.

Keywords

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Vacuum-Packaged Ground Beef: The Influence of Color and Educational Materials on Consumer Acceptance

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Summary

Questionnaires were completed by 1750 Kansas grocery shoppers in selected Dillon's supermarkets to determine how product color and educational materials affected their purchase intent of vacuum-packaged ground beef. Half the consumers received educational materials (informed consumers). Informed consumers were more likely ($P<.0001$) to indicate a positive purchase intent for vacuum-packaged ground beef than uninformed consumers. Informed consumers were as likely to purchase the purple-red, vacuum-packaged product as the bright cherry-red product to which they are accustomed. Product color was important in their product purchase decision. Vacuum-packaged ground beef should compete favorably with the conventionally packaged product, if educational materials are provided to explain the color differences.

Introduction

Vacuum packaging (VP) can extend beef display life, reduce product loss, and lower transportation and delivery costs. Polyvinyl chloride (PVC) packaging, a conventional method for packaging beef retail cuts, allows air to contact the meat. This enhances formation of the familiar bright cherry-red color, followed by a change to an undesirable brown color after several days. When oxygen is excluded, as with VP, the natural purple-red color of freshly cut meat persists throughout display. Consumers who are used to buying bright cherry-red beef associate this color with good quality. Some studies identify beef color as the most important factor used by consumers in selecting beef at the grocery store. Few studies have focused on consumer reaction to VP beef and its purple-red color.

Consumer acceptance is essential for product success and consumer studies may prove useful in estimating product marketability. The objective of this research was to determine consumer reaction to VP ground beef. Consumer responses to grocery store surveys were used to measure the influence of color on purchase intent. Since consumer education may be a key to VP beef's success, we also examined the influence of educational materials on the purchase intent for VP ground beef.

Experimental Procedures

Questionnaires were distributed to 1750 grocery store shoppers. Consumers at nine Dillon's supermarkets in Salina, Hutchinson, and Wichita, Kansas participated. Three store locations in each city were chosen to obtain a cross section of each city's grocery shoppers. Each participant was asked to examine ground beef packaged in three forms and complete a questionnaire. The three products, presented in random order were: bright cherry-red ground beef packaged in PVC, PVC packaged beef that had turned brown, and purple-red VP ground beef.

Educational materials explaining the benefits and appearance of VP beef were presented randomly to 50% of the study participants prior to their evaluation.

Results and Discussion

Consumers who received educational materials were more likely ($P<.0001$) to indicate a positive purchase intent for VP ground beef than uninformed consumers. Purchase intent for bright cherry-red, PVC-packaged ground beef was lower ($P<.0001$) for informed consumers than for the uninformed group. Educational materials had no apparent effect ($P>.10$) on purchase intent for brown, PVC-packaged beef. Eighty-nine percent of the participants were over 24 years of age. Eighty percent were female, most had either finished high school (35.2%) or had some college education (30.2%). Forty-three percent were unemployed, the remainder had a variety of occupations. Participants were evenly divided among the given income brackets. Most participants were married (77%) and 47% had children. Seventy-nine percent purchase groceries at the survey store once a week or more, and 67.8% purchase beef with the same frequency. These factors had little influence on purchase intent for VP ground beef, for either the informed or uninformed group.

Mean purchase intent scores were 3.0 for bright cherry red, 3.1 for purple-red, and 5.6 for brown colored ground beef for informed consumers and 2.6, 3.8, and 5.6, respectively, for uninformed consumers (1=very definately would purchase, 7=very definitely would not purchase). These means suggested that informed consumers were as willing to purchase VP ground beef as the bright cherry-red product to which they are accustomed. Uninformed consumers were less likely to purchase the purple-red VP than the bright cherry-red, PVC-packaged product. Both groups agreed that they probably/definitely would not purchase the brown PVC-packaged product.

Consumers who received educational materials, which indicated that the brown colored beef was less fresh than either bright cherry-red or purple-red beef, were no less willing to purchase the brown ground beef than the uninformed consumers. This may be because consumers already associate the brown product with loss of freshness and undesirability.

The mean purchase intent scores may support the hypothesis that consumers associate color with freshness and, consequently, their intent to purchase. Consumers agreed (73.8%) that color influenced their purchase intent. The two single most important factors to the participants when selecting ground beef were color (35%) and amount of fat (37.6%). The current 'health and fitness' trend may have increased consumer awareness regarding fat content, making it the most important factor to many consumers when making purchase decisions.

Demographic and buyer behavior characteristics, study date, store, city, and time of testing did not appear to affect purchase intent for VP ground beef. Thus, a single, well-designed consumer education program may be effective in marketing VP ground beef to all target market segments. Although these conclusions only represent Kansas grocery store shoppers and other shoppers with similar characteristics, we believe these findings may represent the country as a whole. If this is true, vacuum-packaged ground beef can be effectively sold to the consumer.